

WHAT IS CLAIMED IS:

1. A syringe comprising:  
a body; and  
a plunger movably disposed within the body, the plunger comprising a wall having an inner surface and an outer surface and one or more inwardly projecting flanges disposed on the inner surface of the wall.
2. The syringe of Claim 1 wherein the one or more inwardly projecting flanges comprises a plurality of flanges.
3. The syringe of Claim 2 wherein the plurality of flanges are spaced along a portion of the interior surface of the wall.
4. The syringe of Claim 3 wherein the plurality of flanges are evenly spaced along the interior surface of the wall.
5. The syringe of Claim 1 wherein the interior surface of the wall defines a retaining shoulder formed along a length thereof.
6. The syringe of Claim 5 wherein the retaining shoulder is formed along an axial length of the wall.
7. The syringe of Claim 1 wherein the body and the plunger wall are substantially cylindrical and the one or more inwardly projecting flanges comprises a plurality of flanges.
8. The syringe of Claim 7 wherein the plurality of inwardly projecting flanges extend longitudinally along a portion of the interior surface of the plunger wall.
9. The syringe of Claim 7 wherein the plurality of inwardly projecting flanges are radially spaced along a portion of the interior surface of the wall.

10. The syringe of Claim 7 wherein the interior surface of the wall defines a retaining shoulder formed along a circumference thereof.

11. The syringe of Claim 7 wherein the interior surface of the wall defines a retaining shoulder formed along an axial plane thereof, and the plurality of inwardly projecting flanges are radially spaced along the interior surface of the wall and extend in a longitudinal direction proximal to the retaining shoulder.

12. The syringe of Claim 11 wherein the plurality of flanges are evenly spaced along the wall.

13. A fluid injection system comprising:  
an injector comprising:  
a housing; and  
a drive member at least partially disposed within the housing, the drive member comprising at least one retaining member and one or more outwardly extending flange members; and  
a syringe comprising:  
a body; and  
a plunger movably disposed within the body, the plunger comprising a wall having an inner surface defining a retaining shoulder and one or more inwardly projecting flanges disposed on the inner surface of the wall;  
wherein the at least one retaining member on the drive member of the injector is adapted to engage the retaining shoulder on the plunger wall to enable the drive member to retract the plunger with the body of the syringe;  
wherein the one or more inwardly projecting flanges on the plunger wall are adapted to engage the one or more outwardly extending flange members on the drive member when the syringe body is rotated about its longitudinal axis, the one or more outwardly extending flange members operable to cause the at least one retaining member on the drive member to disengage the retaining shoulder on the plunger wall upon rotation of the syringe body.

14. The fluid injection system of Claim 13 wherein the one or more inwardly projecting flanges comprises a plurality of flanges.

15. The fluid injection system of Claim 14 wherein the plurality of flanges are spaced along a portion of the interior surface of the wall.

16. The fluid injection system of Claim 15 wherein the plurality of flanges are evenly spaced along the interior surface of the wall.

17. The fluid injection system of Claim 13 wherein the retaining shoulder is formed along an axial length of the wall.

18. The fluid injection system of Claim 13 wherein the body and the plunger wall are substantially cylindrical and the one or more inwardly projecting flanges comprises a plurality of flanges.